

**UNVARNISHED GLASS BRAIDED SLEEVING****1.0 GENERAL:**

This specification governs the quality requirements of unvarnished glass braided sleeving, manufactured from low alkali content glass fibre filament yarn (E glass).

2.0 APPLICATION:

Used for tying of end windings of electrical machines and as mechanical protection of winding wire in coils.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no national standard covering this material.

4.0 DIMENSIONS AND TOLERANCES:

Bore diameter (ID) and wall thickness shall be as stated on BHEL order.

	<u>Nominal bore, mm</u>				
	<u>2</u>	<u>3</u>	<u>5</u>	<u>6</u>	<u>8</u>
Tolerance on nominal bore	± 10%	± 10%	± 10%	± 10%	± 10%
Wall thickness, mm	0.18	0.18	0.3	0.2	0.2
Tolerance on wall thickness	± 10%	± 10%	± 10%	± 10%	± 10%
Stretched width, (approx.), mm	1.8	2.5	4.0	4.5	6.0
Specific weight, g/100meters	175±5%	250±5%	600±10%	550±10%	700±10%

Note: Whenever required, for nominal bore 5mm, wall thickness of 0.2mm with specific weight of 450±5% g/100m, may also be specified on the order.

5.0 TEXTURE:

No. of spindles	24	32	40	40	48
No. of threads (plaits)/cm	8±2	8±2	8±2	8±2	8±2
Yarn count	33½	33½	33½	33½	33½
No. of ends	1	1	1	1	1
Total no. of yarns	24	32	80	80	96

Revisions :

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APPROVED :INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (E)

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**6.0 TEST SAMPLE:**

10 meter length of sleeving shall be supplied for testing and approval.

7.0 THREAD COLOUR:

A single thread of the ordered colour running longitudinally throughout out the length is to be provided in the sleeving for identification purposes. The colour of thread shall not dissolve or spread when sleeving is treated with impregnating varnishes.

8.0 PROPERTIES:

Unless other wise specified, when tested in accordance with IS:5352, the material shall show the following properties:

8.1 Mechanical:**8.1.1 Breaking Strength:**

Nominal bore, mm	Breaking load, N, min
2	295
3	490
5	640
6	735
8	785

8.2 Chemical:

Glass Content: 98.0%, min.

9.0 TYPE APPROVAL:**Samples:**

Samples for type approval testing shall be accepted only from those manufactures whose manufacturing and testing facilities are considered satisfactory to ensure continuous supply of good product.

10.0 TYPE TESTS:

10.1 Conductivity of 1% Aqueous Extract: 70 micromhos /cm, max

10.2 pH of 1% Aqueous Extract: 7 to 10.

Note: Periodicity is once in two years or whenever there is a change in source or grade.



11.0 TEST CERTIFICATES:

Unless otherwise specified, three copies of test certificates shall be supplied alongwith each consignment.

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their despatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

AA 256 22 (Rev.No 02): Unvarnished glass braided sleeving.

BHEL Order No.

Manufacturing's/Supplier's name

Trade mark, if any

Batch/Lot No.

Test values of clauses 4.0, 5.0 and 10.0.

12.0 PACKING AND MARKING:

The sleeving shall be supplied in continuous lengths of at least 40 meters. Each bundle should be of 100 meters packed in polythene bags and placed in corrugated paper box to avoid damage during transit. An identification tag should be securely pasted over the outer box.

Each box shall be marked with the following information:

A 25622: Unvarnished glass braided sleeving.

BHEL order No.

Manufacturer's / Supplier's Name and grade.

Nominal size

Batch/Lot No.

Quantity supplied

Date of manufacture

13.0 REFERRED STANDARDS (Latest Publications Including Amendments):

- 1) IS:5352